Kissimmee Basin Facts and Figures

- Covers over 2,380 square miles in Orange, Osceola, Polk, Highlands, and Okeechobee Counties
- KB is experiencing high growth in urban areas in the north and moderate agricultural increases in the south
- Agricultural use accounts for 75% of overall water demand and is expected to increase by 55% by 2020
- At the same time the region's population is expected to increase by 89% (from 363,000 to 687,000)

Kissimmee Basin
Facts and Figures (cont.)

- Overall water demand is expected to increase 63 % to over 242,000 million gallons per year by 2020
- Rainfall averages about 50 inches per year.
- The KB contains a large variety of natural wetland and upland communities and diverse fish & wildlife species.

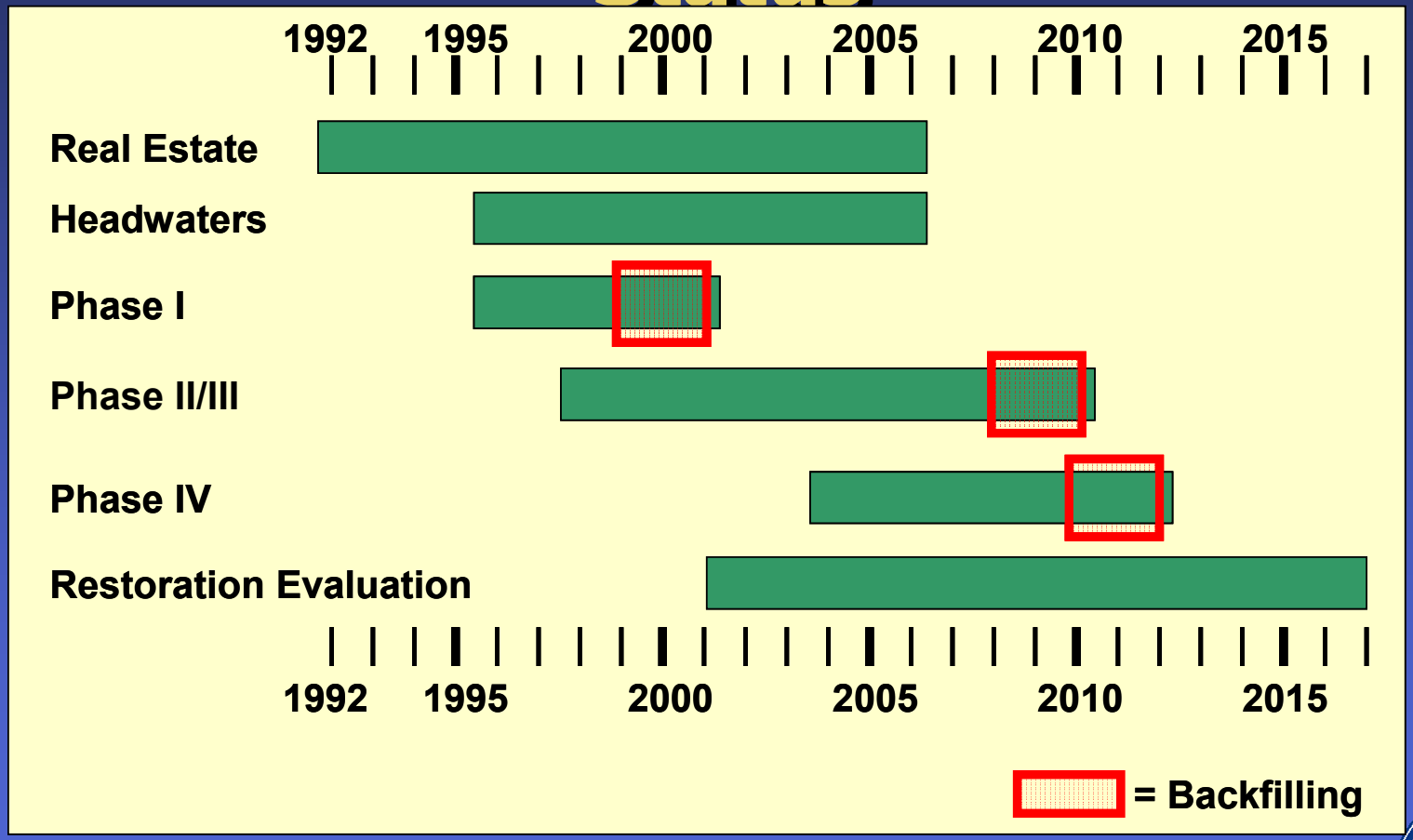
Kissimmee Basin Projects

- Kissimmee River Restoration Project (KRR)
- Headwaters Revitalization
- Upper Chain of Lakes Long Term Management Plan (KCOL LTMP)

Overall KRR Project Status

- Project Construction Start Date May 1994
- Phase I initiated June 1999, completed February 2001
- 31 Project Components
- 14 complete, 7 in planning, 6 in design, 4 in construction
- Projected Project completion date Aug 2012
- Project Restoration Evaluation end date 2017
- Total Project Costs $578 million (adj. 2003)

Kissimmee River Restoration Project: Status



Headwaters Revitalization

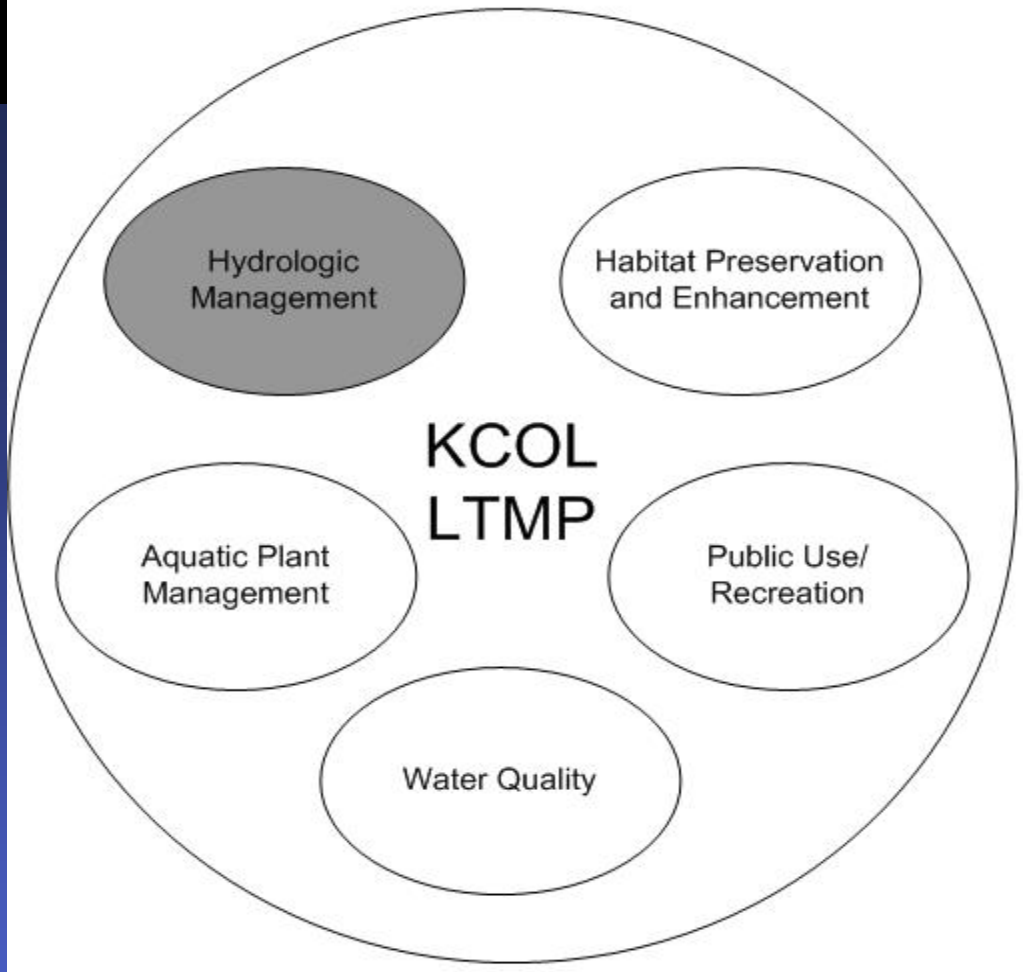
- Provide greater and more natural lake level fluctuations
- Expand existing peripheral marsh habitats (~7200 acres)
- Provide adequate operational flexibility to incorporate management strategies that allow river restoration project to meet or exceed the varying unforeseen needs of the Kissimmee River Upper and Lower Basin.

Headwaters Revitalization Issues not addressed

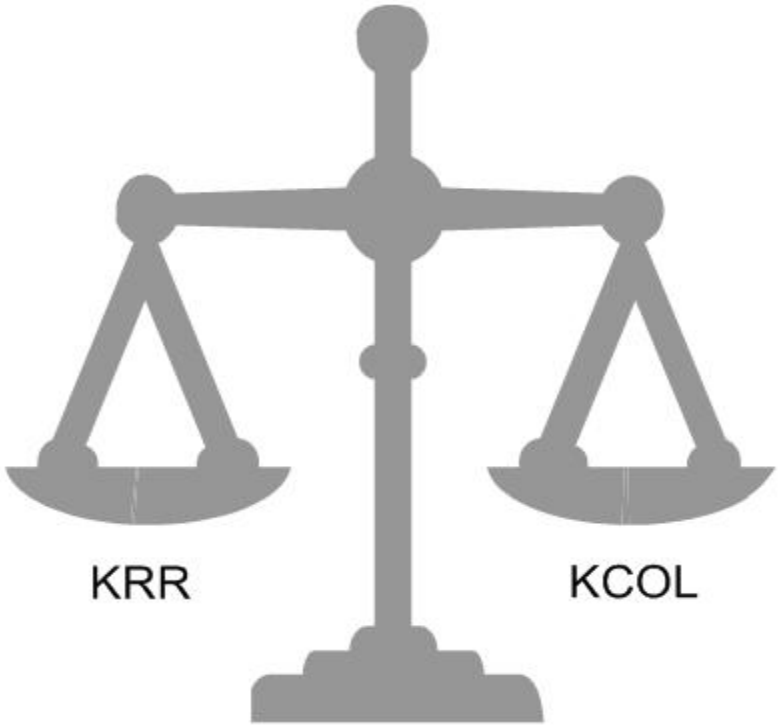
- Operational requirements for hydrilla treatment
- Management practices needed to preserve and enhance lake marsh habitat (e.g. extreme lake drawdowns)
- Water supply demands (projected 126% increase over next 20 years)
- Maintenance of current flood protection levels under current and project land use change

Why should KCOL regulations be modified?

- Current regulations do not accommodate routine management practices used to sustain lake ecosystem health (e.g. Lake Drawdowns, hydrilla treatment)
- Deviations from current management practices impact the KRR and Lake Okeechobee
- Regulation Schedule Deviations and Impact Mitigation cost federal and state agencies time, and money

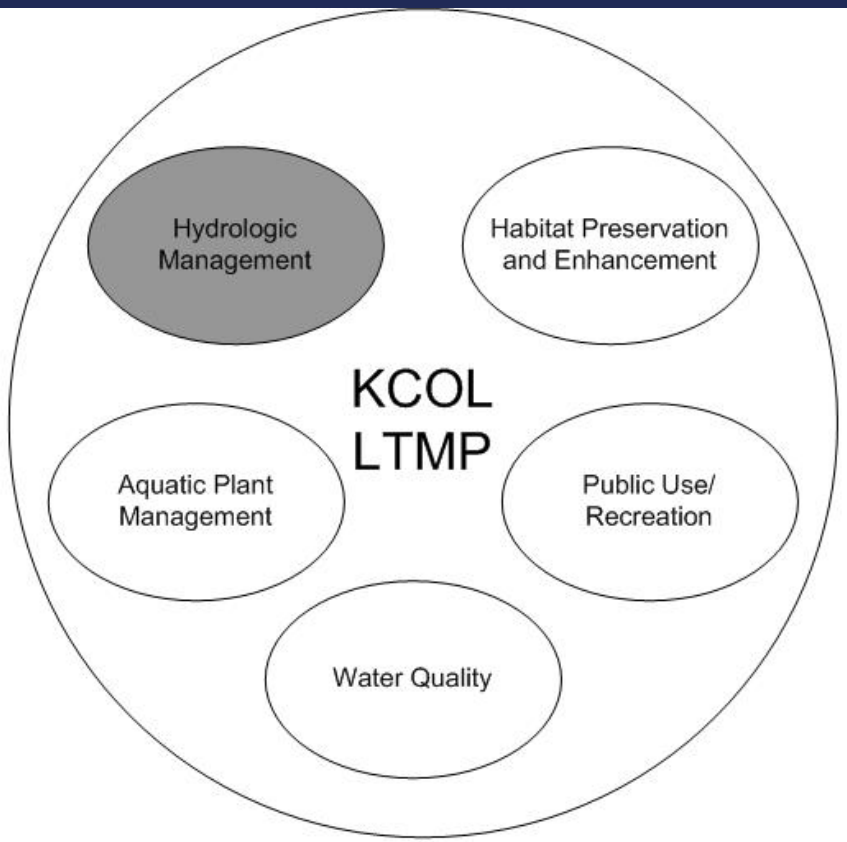


Hydrologic Assessment, Modeling, and Operations Plan Contract



1) Define Ecosystem Health / Develop Performance Measures
2) Determine Baseline Conditions
3) Assess Status
4) Identify opportunities for individual action by stakeholder agencies for situations where Baseline Conditions do not meet Performance Measures

Develop Interim and Long-Term Water Control Plans for 13 structures within Kissimmee Watershed



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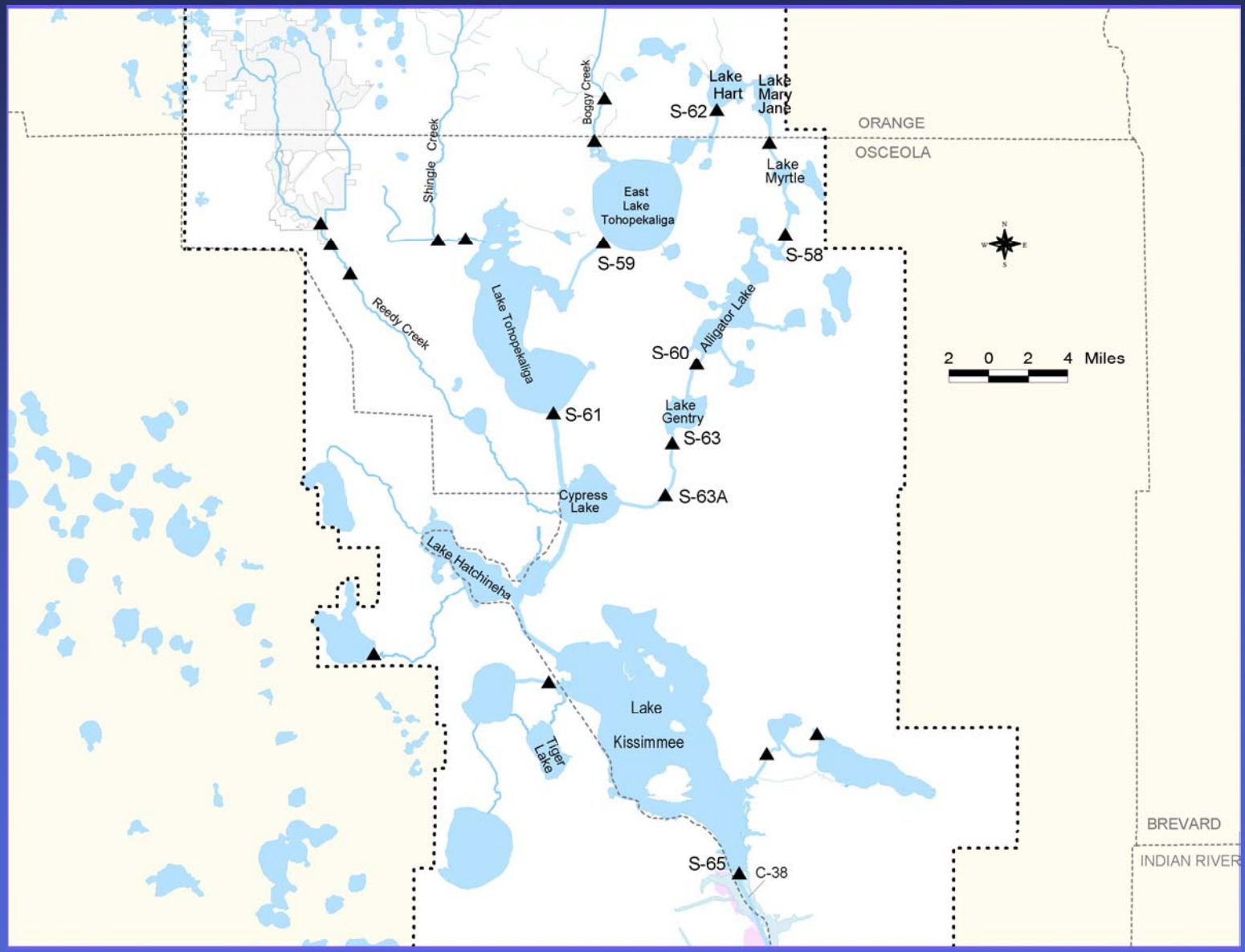
KCOL LTMP

- Purpose: improve/sustain lake ecosystem health while simultaneously meeting KRR and Lake Okeechobee hydrologic criteria and performance measures
- Mechanism: Build consensus among stakeholders on ***what*** to protect and preserve through interagency management practices

KCOL LTMP Geographic Scope



LTMP – Partner Agencies

- South Florida Water Management District
- Florida Fish and Wildlife Conservation Commission
- Florida Department of Environmental Protection
- Florida Department of Agricultural and Consumer Services
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- Local Governments and other Stakeholders

LTMP - Goals

- Hydrologic Management
- Habitat Preservation and Enhancement
- Aquatic Plant Management
- Water Quality Improvement
- Public Use and Recreation

Schedule

- Final Project Charter and Goal Document Approval (5/05)
- Complete CEM / Baseline Conditions (9/05)
- Complete Performance Measures (12/05)
- Complete Final DRAFT (6/06)
- Final Plan (9/06)

Update

- Conceptual Ecosystem Model - Components and relationships defined
- Literature Review Complete
- Stakeholder Value Survey Complete
- Baseline Conditions Document
- Hydrologic Performance Measure Development

KCOL Hydrologic Performance Measure Development – Approach (1 0f 3)

- Avoid discussion of specific water levels. Goal is to develop science-based justifications for levels that are tied to key species and/or groups of species that reside in the system.
- Identify whether there are unique characteristics that differentiate one lake or set of lakes from the others in the Kissimmee Chain of Lakes System
- Identify the indicator species and/or guilds and/or taxonomic groups of interest
- Are any of these more significant than others to a lake and/or sets of lakes?

KCOL Hydrologic Performance Measure Development – Approach (2 of 3)

- What hydrologic criteria/conditions need to be met to satisfy life cycle requirements of indicators
  - Ideal Conditions
  - Stressful Conditions
  - Harmful Conditions
- Define ranges and variability
  - E.g. Water level fluctuation not greater than .5 feet between Dec 15 and March 15

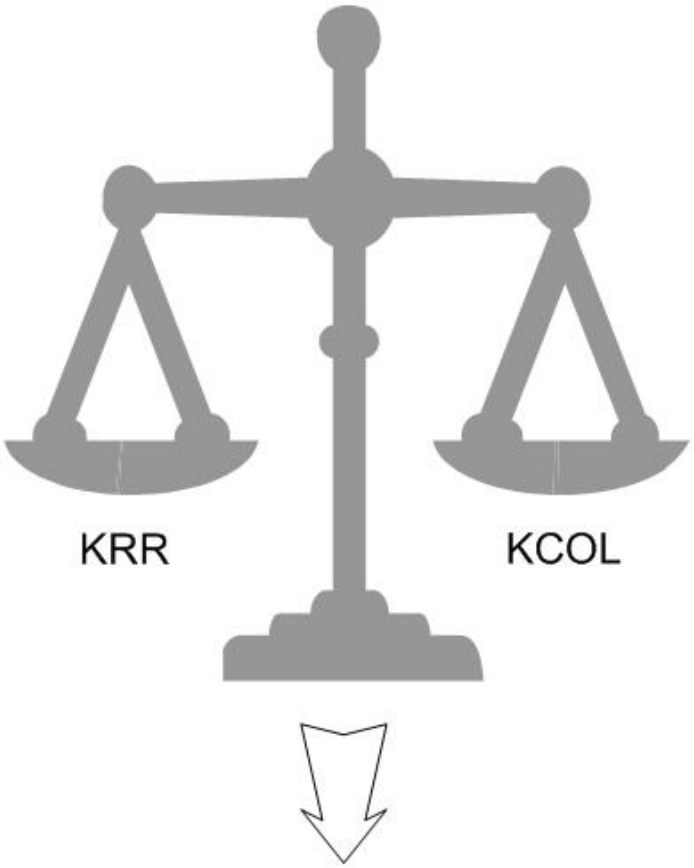
Hydrologic Performance Measure Development – Approach (3 of 3)

- Apply constraints
- Evaluate consequences of constraints on indicator life cycle requirements

KRR Hydrologic Performance Measure Development – Approach

- Leverage existing work to
  - Develop Conceptual Ecosystem Model
  - Translate SFWMD Expectations into hydrologic performance measures

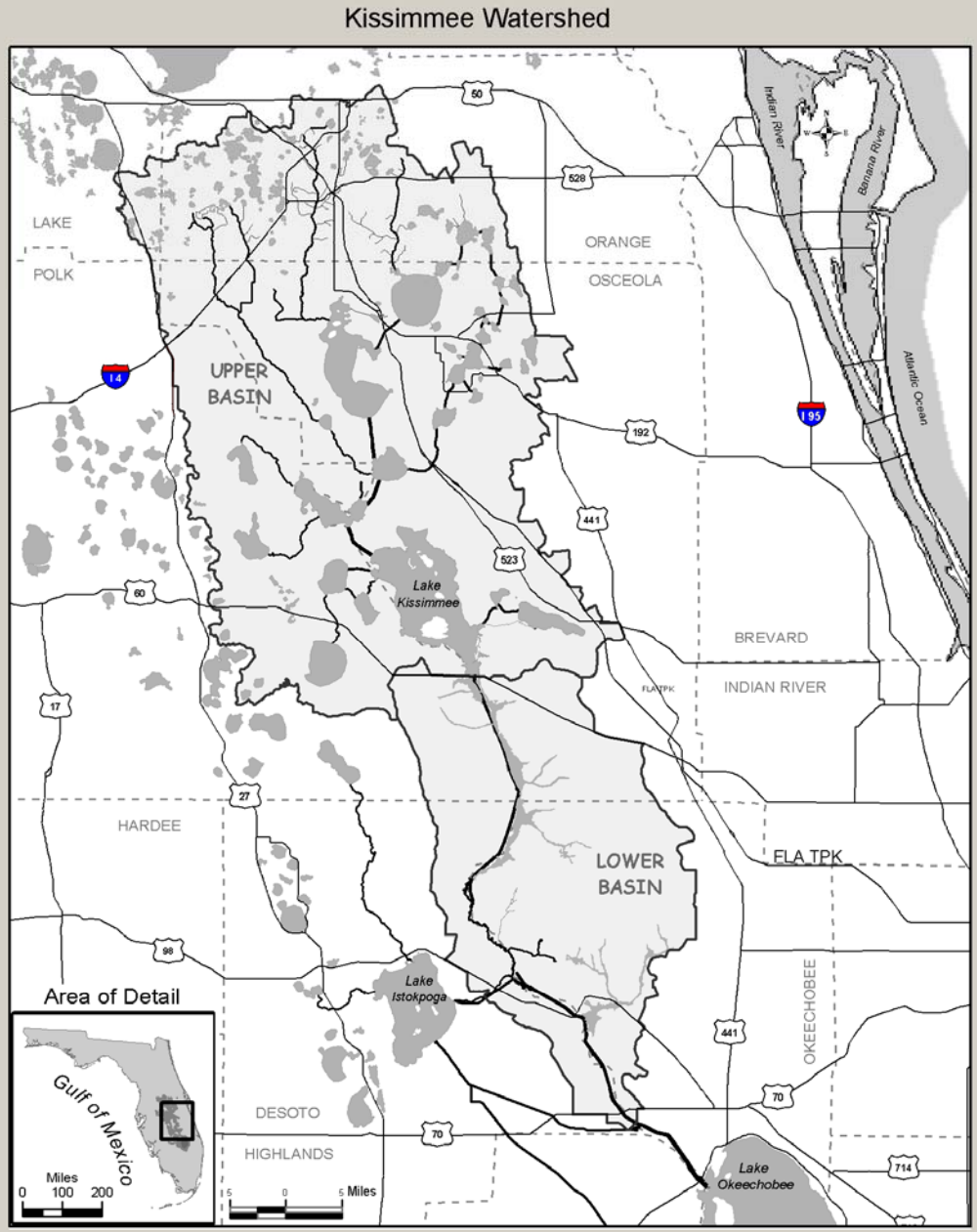
Hydrologic Assessment, Modeling, and Operations Plan Contract



Develop Integrated Interim and Long-Term Water Control Plans for 13 structures within Kissimmee Watershed

Geographic Scope:

Kissimmee Watershed



Kissimmee Watershed Assessment, Modeling, and Operations Schedule

- Initiate Work Order (September 27, 2004)
- Phase I Completion (June 2005)
- Phase II Completion (July 2006)
- Phase III Completion (February 2007)

Contract Phases

- Phase I: Problem Identification, Trend Analysis, Model Evaluation and Selection
- Phase II: Model Implementation, Calibration, Verification
- Phase III: Interim and Long-Term Operation Plan Alternative Formulation, Evaluation, and Selection

Deliverables to Date

- Draft and Final Work Plan
- P3e Schedule
- Watershed Delineation Criteria
- Draft Watershed Delineations for Kissimmee Upper Basin
- Problem Identification Report
- Evaluation of existing Monitoring network
- Model Evaluation, Selection, and Implementation Strategy Workshop

Tasks Underway

- Model Selection
- Model Development Plan
- Preliminary Data Analysis
- Watershed Assessment Report
- Phase II Work Plan

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